SEQUENCE LISTING <110> Johnson & Johnson Pty Ltd Unisearch Limited <120> Catalytic molecules <150> PP 8103 <151> 1999-01-11 <160> 20 <170> PatentIn Ver. 2.1 <210> 1 <211> 3132 <212> DNA <213> Homo sapiens <400> 1 ccgcagaact tggggagccg ccgccgccat ccgccgccgc agccagcttc cgccgccgca 60 ggaccggccc ctgccccagc ctccgcagcc gcggcgcgtc cacgcccgcc cgcgcccagg 120 gegagteggg gtegeegeet geaegettet eagtgtteee egegeeeege atgtaaceeg 180 gccaggcccc cgcaacggtg tcccctgcag ctccagcccc gggctgcacc cccccgcccc 240 gacaccaget etecageetg etegteeagg atggeegegg ecaaggeega gatgeagetg 300 atgteceege tgeagatete tgaceegtte ggateettte etcaetegee caecatggae 360 aactacccta agctggagga gatgatgctg ctgagcaacg gggctcccca gttcctcggc 420 ggaggcggcg ggggcggcag caacagcagc agcagcagca gcaccttcaa ccctcaggcg 540 gacacgggcg agcagccta cgagcacctg accgcagagt cttttcctga catctctctg 600 aacaacgaga aggtgctggt ggagaccagt taccccagcc aaaccactcg actgccccc 660 atcacctata ctggccgctt ttccctggag cctgcaccca acagtggcaa caccttgtgg 720 cccgagcccc tcttcagctt ggtcagtggc ctagtgagca tgaccaaccc accggcctcc 780 tcgtcctcag caccatctcc agcggcctcc tccgcctccg cctcccagag cccaccctg 840 agctgcgcag tgccatccaa cgacagcagt cccatttact cagcggcacc caccttcccc 900 acgccgaaca ctgacatttt ccctgagcca caaagccagg ccttcccggg ctcggcaggg 960 acagegetee agtaceegee teetgeetae eetgeegeea agggtggett eeaggtteee 1020 atgateceeg actacetgtt tecacageag cagggggate tgggeetggg caceceagae 1080 cagaageeet tecagggeet ggagageege acceageage ettegetaae eeetetgtet 1140 actattaagg cctttgccac tcagtcgggc tcccaggacc tgaaggccct caataccagc 1200 taccagtccc agctcatcaa acccagccgc atgcgcaagt atcccaaccg gcccagcaag 1260 acgcccccc acgaacgccc ttacgcttgc ccagtggagt cctgtgatcg ccgcttctcc 1320 cgctccgacg agctcacccg ccacatccgc atccacacag gccagaagcc cttccagtgc 1380 cgcatctgca tgcgcaactt cagccgcagc gaccacctca ccacccacat ccgcacccac 1440 acaggegaaa ageeettege etgegaeate tgtggaagaa agtttgeeag gagegatgaa 1500 cgcaagaggc ataccaagat ccacttgcgg cagaaggaca agaaagcaga caaaagtgtt 1560 gtggcctctt cggccacctc ctctctctct tcctacccgt ccccggttgc tacctcttac 1620 ccgtccccgg ttactacctc ttatccatcc ccggccacca cctcataccc atcccctgtg 1680 cccacctcct tetectetee eggeteeteg acetacceat eccetgtgea cagtggette 1740 ccctccccgt cggtggccac cacgtactcc tctgttcccc ctgctttccc ggcccaggtc 1800 agcagettee ettecteage tgteaceaac teetteageg eetecaeagg gettteggae 1860 atgacagcaa ccttttctcc caggacaatt gaaatttgct aaagggaaag gggaaagaaa 1920 gggaaaaggg agaaaaagaa acacaagaga cttaaaggac aggaggagga gatggccata 1980 ggagaggagg gttcctctta ggtcagatgg aggttctcag agccaagtcc tccctcta 2040 ctggagtgga aggtctattg gccaacaatc ctttctgccc acttcccctt ccccaattac 2100 tattcccttt gacttcagct gcctgaaaca gccatgtcca agttcttcac ctctatccaa 2160 agaacttgat ttgcatggat tttggataaa tcatttcagt atcatctcca tcatatgcct 2220 gaccccttgc tcccttcaat gctagaaaat cgagttggca aaatggggtt tgggcccctc 2280 agagecetge eetgeaceet tgtacagtgt etgtgecatg gatttegttt ttettggggt 2340

actcttgatg tgaagataat ttgcatattc tattgtatta tttggagtta ggtcctcact 2400

```
tgggggaaaa aaaaaaaaa aagccaagca aaccaatggt gatcctctat tttgtgatga 2460
tgctgtgaca ataagtttga acctttttt ttgaaacagc agtcccagta ttctcagagc 2520
atgtgtcaga gtgttgttcc gttaaccttt ttgtaaatac tgcttgaccg tactctcaca 2580
tgtggcaaaa tatggtttgg tttttctttt ttttttttga aagtgttttt tcttcgtcct 2640
tttggtttaa aaagtttcac gtcttggtgc cttttgtgtg atgccccttg ctgatggctt 2700
gacatgtgca attgtgaggg acatgctcac ctctagcctt aaggggggca gggagtgatg 2760
agaatgtaag aaaacaaaat ctaaaacaaa atctgaactc tcaaaagtct attttttaa 2880
ctgaaaatgt aaatttataa atatattcag gagttggaat gttgtagtta cctactgagt 2940
aggcggcgat ttttgtatgt tatgaacatg cagttcatta ttttgtggtt ctattttact 3000
ttgtacttgt gtttgcttaa acaaagtgac tgtttggctt ataaacacat tgaatgcgct 3060
ttattgccca tgggatatgt ggtgtatatc cttccaaaaa attaaaacga aaataaagta 3120
                                                               3132
gctgcgattg gg
<210> 2
<211> 15
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Catalytic
     domain of DNAzyme
<400> 2
                                                               15
ggctagctac aacga
<210> 3
<211> 33
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: DNAzyme
<400> 3
                                                               33
caggggacag gctagctaca acgacgttgc ggg
<210> 4
<211> 33
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: DNAzyme
<400> 4
tgcagggag gctagctaca acgaaccgtt gcg
                                                               33
<210> 5
<211> 33
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: DNAzyme
```

<400> 5 catcctggag gctagctaca acgagagcag gct	33
<210> 6 <211> 33 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: DNAzyme	
<400> 6 ccgcggccag gctagctaca acgacctgga cga	33
<210> 7 <211> 33 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: DNAzyme	
<400> 7 ccgctgccag gctagctaca acgacccgga cgt	33
<210> 8 <211> 33 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: DNAzyme	
<400> 8 gcggggacag gctagctaca acgacagctg cat	33
<210> 9 <211> 33 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: DNAzyme	
<400> 9 cagcggggag gctagctaca acgaatcagc tgc	33
<210> 10 <211> 33 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: DNAzvme	

<400> 10

```
33
ggtcagagag gctagctaca acgactgcag cgg
<210> 11
<211> 3068
<212> DNA
<213> Mus musculus
<400> 11
ggggageege egeegegatt egeegeegee geeagettee geegeegeaa gateggeeee 60
tgccccagcc tccgcggcag ccctgcgtcc accacgggcc gcggctaccg ccagcctggg 120
ggcccaccta cactccccgc agtgtgcccc tgcaccccgc atgtaacccg gccaaccccc 180
ggcgagtgtg ccctcagtag cttcggcccc gggctgcgcc caccacccaa catcagttct 240
ccagctcgct ggtccgggat ggcagcggcc aaggccgaga tgcaattgat gtctccgctg 300
cagatetetg accepttegg etecttteet caeteaceea ecatggaeaa etaceecaaa 360
ctggaggaga tgatgctgct gagcaacggg gctccccagt tcctcggtgc tgccggaacc 420
ccagagggca gcggcggtaa tagcagcagc agcaccagca gcgggggcgg tggtggggc 480
ggcagcaaca gcggcagcag cgccttcaat cctcaagggg agccgagcga acaaccctat 540
gagcacctga ccacagagtc cttttctgac atcgctctga ataatgagaa ggcgatggtg 600
gagacgagtt atcccagcca aacgactcgg ttgcctccca tcacctatac tggccgcttc 660
tccctggagc ccgcacccaa cagtggcaac actttgtggc ctgaacccct tttcagccta 720
gtcagtggcc tcgtgagcat gaccaatcct ccgacctctt catcctcggc gccttctcca 780
getgetteat egtetteete tgeeteecag agecegeece tgagetgtge egtgeegtee 840
aacgacagca gtcccatcta ctcggctgcg cccacctttc ctactcccaa cactgacatt 900
tttcctgagc cccaaagcca ggcctttcct ggctcggcag gcacagcctt gcagtacccg 960
cctcctgcct accctgccac caaaggtggt ttccaggttc ccatgatccc tgactatctg 1020
tttccacaac aacagggaga cctgagcctg ggcaccccag accagaagcc cttccagggt 1080
ctggagaacc gtacccagca gccttcgctc actccactat ccactattaa agccttcgcc 1140
actcagtcgg gctcccagga cttaaaggct cttaatacca cctaccaatc ccagctcatc 1200
aaacccagcc gcatgcgcaa gtaccccaac cggcccagca agacaccccc ccatgaacgc 1260
ccatatgctt gccctgtcga gtcctgcgat cgccgctttt ctcgctcgga tgagcttacc 1320
cgccatatcc gcatccacac aggccagaag cccttccagt gtcgaatctg catgcgtaac 1380
ttcagtcgta gtgaccacct taccacccac atccgcaccc acacaggcga gaagcctttt 1440
gcctgtgaca tttgtgggag gaagtttgcc aggagtgatg aacgcaagag gcataccaaa 1500
atccatttaa gacagaagga caagaaagca gacaaaagtg tggtggcctc cccggctgcc 1560
tetteactet ettettacce atecceagtg getaceteet acceatecce tgccaccace 1620
tcattcccat cccctgtgcc cacttcctac tcctctcctg gctcctccac ctacccatct 1680
cetgegeaca gtggettece gtegeegtea gtggeeacea cetttgeete egtteeacet 1740
gettteecea eccaggicag eagetteeeg tetgegggeg teageagete etteageace 1800
tcaactggtc tttcagacat gacagcgacc ttttctccca ggacaattga aatttgctaa 1860
agggaataaa agaaagcaaa gggagaggca ggaaagacat aaaagcacag gagggaagag 1920
atggccgcaa gaggggccac ctcttaggtc agatggaaga tctcagagcc aagtccttct 1980
actcacgagt agaaggaccg ttggccaaca gccctttcac ttaccatccc tgcctccccc 2040
gtcctgttcc ctttgacttc agctgcctga aacagccatg tccaagttct tcacctctat 2100
ccaaaggact tgatttgcat ggtattggat aaatcatttc agtatcctct ccatcacatg 2160
cctggccctt gctcccttca gcgctagacc atcaagttgg cataaagaaa aaaaaatggg 2220
tttgggccct cagaaccctg ccctgcatct ttgtacagca tctgtgccat ggattttgtt 2280
ttccttgggg tattcttgat gtgaagataa tttgcatact ctattgtatt atttggagtt 2340
aaatcctcac tttgggggag gggggagcaa agccaagcaa accaatgatg atcctctatt 2400
ttgtgatgac tctgctgtga cattaggttt gaagcatttt ttttttcaag cagcagtcct 2460
aggtattaac tggagcatgt gtcagagtgt tgttccgtta attttgtaaa tactggctcg 2520
actgtaactc tcacatgtga caaagtatgg tttgtttggt tgggttttgt ttttgagaat 2580
ttttttgccc gtccctttgg tttcaaaagt ttcacgtctt ggtgcctttt gtgtgacacg 2640
cetteegatg gettgacatg egeagatgtg agggacaege teacettage ettaaggggg 2700
tttcggtctc cagaatgtaa gaagaaaaaa tttaaacaaa aatctgaact ctcaaaagtc 2820
```

tatttttcta aactgaaaat gtaaatttat acatctattc aggagttgga gtgttgtggt 2880 tacctactga gtaggctgca gtttttgtat gttatgaaca tgaagttcat tattttgtgg 2940 ttttatttta ctttgtactt gtgtttgctt aaacaaagta acctgtttgg cttataaaca 3000

cattgaatgc gctctattgc ccatgggata tgtggtgtgt atccttcaga aaaattaaaa 3060 ggaaaaat 3068

<210> 12 <211> 4321 <212> DNA

<213> Rattus rattus

<400> 12

ccqcqqaqcc tcaqctctac qcqcctqqcq ccctccctac qcqqqcqtcc ccqactcccq 60 cgcgcgttca ggctccgggt tgggaaccaa ggagggggag ggtgggtgcg ccgacccgga 120 aacaccatat aaggagcagg aaggatcccc cgccggaaca gaccttattt gggcagcgcc 180 ttatatggag tggcccaata tggccctgcc gcttccggct ctgggaggag gggcgaacgg 240 gggttggggc gggggcaagc tgggaactcc aggagcctag cccgggaggc cactgccgct 300 gttccaatac taggctttcc aggagcctga gcgctcaggg tgccggagcc ggtcgcaggg 360 tggaagegee caeegetett ggatgggagg tetteaegte aeteegggte eteeeggteg 420 gtccttccat attagggctt cctgcttccc atatatggcc atgtacgtca cggcggaggc 480 gggcccgtgc tgtttcagac ccttgaaata gaggccgatt cggggagtcg cgagagatcc 540 cagcgcgcag aacttgggga gccgccgccg cgattcgccg ccgccgccag cttccgccgc 600 cgcaagateg geceetgeee cageeteege ggeageeetg egteeaceae gggeegegge 660 caccgccage etgggggece acetacaete ecegeagtgt geceetgeae ecegeatgta 720 acceggecaa cateeggega gtgtgeeete agtagetteg geeeeggget gegeeeacea 780 cccaacatca gctctccagc tcgcacgtcc gggatggcag cggccaaggc cgagatgcaa 840 ttgatgtete egetgeagat etetgaceeg tteggeteet tteeteacte acceaceatg 900 gacaactacc ccaaactgga ggagatgatg ctgctgagca acggggctcc ccagttcctc 960 ggtgctgccg gaaccccaga gggcagcggc ggcaataaca gcagcagcag cagcagcagc 1020 agcagcgggg gcggtggtgg gggcggcagc aacagcggca gcagcgcttt caatcctcaa 1080 ggggagccga gcgaacaacc ctacgagcac ctgaccacag gtaagcggtg gtctgcgccg 1140 aggetgaate eccettegtg actaecetaa egteeagtee tttgeageae ggaeetgeat 1200 ctagatetta gggaegggat tgggatttee etetatteea eacageteea gggaettgtg 1260 ttagagggat gtctggggac cccccaaccc tccatccttg cgggtgcgcg gagggcagac 1320 cgtttgtttt ggatggagaa ctcaagttgc gtgggtggct ggagtgggg agggtttgtt 1380 ttgatgagca gggttgcccc ctcccccgcg cgcgttgtcg cgagccttgt ttgcagcttg 1440 ttcccaagga agggctgaaa tctgtcacca gggatgtccc gccgcccagg gtaggggcgc 1500 gcattagctg tggccactag ggtgctggcg ggattccctc accccggacg cctgctgcgg 1560 agcgctctca gagctgcagt agagggggat tctctgtttg cgtcagctgt cgaaatggct 1620 ctgccactgg agcaggtcca ggaacattgc aatctgctgc tatcaattat taaccacatc 1680 gagagtcagt ggtagccggg cgacctcttg cctggccgct tcggctctca tcgtccagtg 1740 attgctctcc agtaaccagg cctctctgtt ctctttcctg ccagagtcct tttctgacat 1800 cgctctgaat aacgagaagg cgctggtgga gacaagttat cccagccaaa ctacccggtt 1860 gcctcccatc acctatactg gccgcttctc cctggagcct gcacccaaca gtggcaacac 1920 tttgtggcct gaaccccttt tcagcctagt cagtggcctt gtgagcatga ccaaccctcc 1980 aacctcttca tcctcagcgc cttctccagc tgcttcatcg tcttcctctg cctcccagag 2040 cccacccctg agetgtgccg tgccgtccaa cgacagcagt cccatttact cagetgcace 2100 cacctttcct actcccaaca ctgacatttt tcctgagccc caaagccagg cctttcctgg 2160 ctctgcaggc acagccttgc agtacccgcc tcctgcctac cctgccacca agggtggttt 2220 ccaggttccc atgatccctg actatctgtt tccacaacaa cagggagacc tgagcctggg 2280 caccccagac cagaagccct tccagggtct ggagaaccgt acccagcagc cttcgctcac 2340 tccactatcc actatcaaag ccttcgccac tcagtcgggc tcccaggact taaaggctct 2400 taataacacc taccagtccc aactcatcaa acccagccgc atgcgcaagt accccaaccg 2460 gcccagcaag acacccccc atgaacgccc gtatgcttgc cctgttgagt cctgcgatcg 2520 ccgcttttct cgctcggatg agcttacacg ccacatccgc atccatacag gccagaagcc 2580 cttccagtgt cgaatctgca tgcgtaattt cagtcgtagt gaccacctta ccacccacat 2640 ccgcacccac acaggcgaga agccttttgc ctgtgacatt tgtgggagaa agtttgccag 2700 gagtgatgaa cgcaagaggc ataccaaaat ccacttaaga cagaaggaca agaaagcaga 2760 caaaagtgtc gtggcctcct cagctgcctc ttccctctct tcctacccat ccccagtggc 2820 tacctcctac ccatcccccg ccaccacctc atttccatcc ccagtgccca cctcttactc 2880 ctctccgggc tcctctacct acccgtctcc tgcacacagt ggcttcccat cgccctcggt 2940 ggccaccacc tatgcctccg tcccacctgc tttccctgcc caggtcagca ccttccagtc 3000

```
tgcaggggtc agcaactcct tcagcacctc aacgggtctt tcagacatga cagcaacctt 3060
ttctcctagg acaattgaaa tttgctaaag ggaatgaaag agagcaaagg gaggggagcg 3120
cgagagacaa taaaggacag gagggaagaa atggcccgca agaggggctg cctcttaggt 3180
cagatggaag atctcagagc caagtccttc tagtcagtag aaggcccgtt ggccaccagc 3240
cettteactt agegteeetg cecteeecag teeeggteet tttgaettea getgeetgaa 3300
acagccacgt ccaagttctt cacctctatc caaaggactt gatttgcatg gtattggata 3360
aaccatttca gcatcatctc caccacatgc ctggcccttg ctcccttcag cactagaaca 3420
tcaagttggc tgaaaaaaa aatgggtctg ggccctcaga accctgccct gtatctttgt 3480
acageatetg tgeeatggat tttgttttee ttgggggtatt ettgatgtga agataatttg 3540
catactctat tgtactattt ggagttaaat tctcactttg ggggaggggg agcaaagcca 3600
agcaaaccaa tggtgatcct ctattttgtg atgatcctgc tgtgacatta ggtttgaaac 3660
tttttttttt ttttgaagca gcagtcctag gtattaactg gagcatgtgt cagagtgttg 3720
ttccgttaat tttgtaaata ctgctcgact gtaactctca catgtgacaa aatacggttt 3780
gtttggttgg gttttttgtt gtttttgaaa aaaaaatttt ttttttgccc gtccctttgg 3840
tttcaaaagt ttcacgtctt ggtgcctttg tgtgacacac cttgccgatg gctggacatg 3900
tgcaatcgtg aggggacacg ctcacctcta gccttaaggg ggtaggagtg atgtttcagg 3960
ggaggettta gageacgatg aggaagaggg etgagetgag etttggttet ecagaatgta 4020
agaagaaaaa tttaaaacaa aaatctgaac tctcaaaagt ctatttttt aactgaaaat 4080
gtagatttat ccatgttcgg gagttggaat gctgcggtta cctactgagt aggcggtgac 4140
ttttgtatgc tatgaacatg aagttcatta ttttgtggtt ttattttact tcgtacttgt 4200
qtttqcttaa acaaaqtqac ttqtttqqct tataaacaca ttqaatqcqc tttactqccc 4260
atgggatatg tggtgtgtat ccttcagaaa aattaaaagg aaaataaaga aactaactgg 4320
                                                                   4321
<210> 13
<211> 19
<212> RNA
<213> Rattus rattus
<400> 13
                                                                   19
acguccggga uggcagcgg
<210> 14
<211> 19
<212> RNA
<213> Homo sapiens
<400> 14
                                                                   19
ucguccagga uggccgcgg
<210> 15
<211> 34
<212> DNA
<213> Artificial Sequence
<220>
<221> misc feature
<222> (33)..(34)
\langle 223 \rangle 3'-3-linked T
<220>
<223> Description of Artificial Sequence: DNAzyme
<400> 15
caggggacag gctagctaca acgacgttgc gggt
```

```
<210> 16
<211> 34
<212> DNA
<213> Artificial Sequence
<220>
<221> misc_feature
<222> (33)..(34)
<223> 3'-3-linked T
<220>
<223> Description of Artificial Sequence: DNAzyme
<400> 16
                                                                    34
tgcaggggag gctagctaca acgaaccgtt gcgt
<210> 17
<211> 34
<212> DNA
<213> Artificial Sequence
<220>
<221> misc_feature
<222> (33)..(34)
<223> 3'-3-linked T
<223> Description of Artificial Sequence: DNAzyme
<400> 17
                                                                    34
catcctggag gctagctaca acgagagcag gctt
<210> 18
<211> 34
<212> DNA
<213> Artificial Sequence
<220>
<221> misc feature
<222> (33)..(34)
<223> 3'-3-linked T
<220>
<223> Description of Artificial Sequence: DNAzyme
<400> 18
tcagctgcag gctagctaca acgactcggc cttt
                                                                    34
<210> 19
<211> 34
<212> DNA
<213> Artificial Sequence
<220>
<221> misc feature
<222> (33)..(34)
<223> 3'-3-linked T
```

<220> <223> Description of Artificial Sequence: DNAzyme	
<400> 19 gcggggacag gctagctaca acgacagctg catt	34
<210> 20 <211> 15 <212> DNA <213> Rattus rattus	
<400> 20 cttggccgct gccat	15